

wherein said adhesive composition consists of from about 2 - 12 wt. % epoxy resin, and resorcinol formaldehyde latex, based on a dry weight basis.

Please add the following new claim 24:

24. A single dip composition, consisting of: from about 2 – 12 wt. % epoxy resin, sufficient alkali additive to buffer the composition, and resorcinol formaldehyde latex, based on a dry weight basis.

REMARKS

On page 2 of the Office Action, the Examiner rejected Claims 1 – 3 and 6 under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No. 10-25666. The Examiner states that the addition of triazine and ethylene-imine of Japanese '666 is not precluded by the language “consisting essentially of” of other components that do not materially change the characteristics of the applicant's invention. In view of the Examiner's position, claim 1 has now been amended to call for the adhesive portion and other non-adhesive additives. The adhesive portion employs the language “consisting of” and therefore is limited to epoxy resin and RFL. This means that the adhesive portion would not include triazine and ethylene-imine.

Support for thrice amended Claim 1 can be found in multiple places throughout the specification, but particularly from the Table on page 11 of the specification which clearly demonstrates that sodium hydroxide is employed to buffer the RFL composition. The sodium hydroxide, for example, is the other non-adhesive additive. The reason the undersigned employed the language “consisting essentially of” is to cover those situations where an alkali material or additive, or wetting agent, for example, is employed. Those non-adhesive additives are used in minor amounts (generally no more than 2% by weight).

On the other hand, the triazine and ethylene-imine additives in the Japanese 10-25666 reference are specifically to improve adhesion between the polyester cord and the tire rubber.

Specifically, the prior art description of the Japanese reference makes it clear that prior to the addition of the triazine and ethylene-imine, adhesion was poor. Consequently, it is clear that the triazine and ethylene-imine are part of the adhesive composition and are not "other non-adhesive additives". With this in mind, it is now submitted that Claim 1 adequately defines over the Japanese reference to Imai.

On page 2 of the Office Action, the Examiner rejects Claims 1 – 3 and 5 – 7 under 35 U.S.C. 102(b) as being anticipated by Mori et al. The Examiner notes that comparative Example 2 of Mori et al. contains a sorbitol epoxy resin.

Mori teaches an adhesive composition comprising a highly saturated nitrile conjugated diene copolymer rubber, and 5 – 30 parts by weight of resorcinol-formaldehyde resin and 2 – 10 parts by weight epoxy. Mori, as stated in column 5, lines 44 – 45, notes that the use of only an aromatic epoxy resin is critical to the invention and that neither aliphatic nor alicyclic epoxy resin are useful as adhesive compositions in tire cord. Specifically, the Examiner answers this argument by pointing out the comparative Example 2 of Mori et al. reads on the claims set forth above. It is further noted that Mori et al. is directed to a dip composition for nylon and not polyester as with the present invention. Furthermore it is noted that the comparative Example 2 of Mori et al. has virtually no adhesion. It is noted that in Table 6 comparative Example 2 has a peel strength of only 125 N/25 mm. On the other hand, the minimum peel strength of Mori et al. invention is 280 N/25 mm. Comparative Example 2 is not an "adhesive composition" since it has virtually no adhesion. Furthermore, it is noted that claims 2 and 3 are not met by Mori et al. In particular, Table 2 shows formaldehyde to resorcinol mole ratios of significantly less than that of the present invention. More specifically, Table 2 also states that the ratio of latex to the RF ratio is significantly under 4.25 as set forth in claim 3 of the present invention. Accordingly, it is submitted that claim 1, thrice amended and claims 2 and 3 clearly do not read on Mori et al.

On page 2 of the Office Action, the Examiner rejects Claims 1 – 3, 6 and 7 under 35 U.S.C. 103 as being unpatentable over Aufdermarsh, Takata, Imai et al. and Japanese '875, '997, '475, '280, '091 and '674 in view of Mori et al. and Japanese '666. Applicant's conclusion on page 4 of the Office Action that the blocked polyisocyanates of these various references do not

affect the basic and novel characteristics of the claimed composition is in clear error. The Examiner is clearly confusing the present invention with those many prior art references cited against the claims in this rejection. The Examiner falsely assumes that because the present invention sees no material benefit to having isocyanate composition in the single dip composition, that the prior art likewise has such a characteristic. There is absolutely no basis for the Examiner jumping to this conclusion. In fact, a clear reading of these references makes it plainly evident that a blocked polyisocyanate is needed to improve the adhesion of those references.

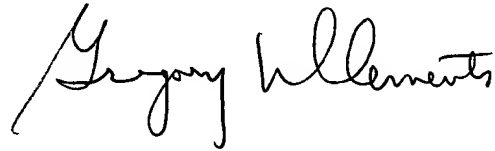
In view of the thrice amended claim 1, which now states that the adhesive composition consists of (and only of) epoxy resin and RFL, it is clear that claim 1 further distinguishes over any reference that employs isocyanates.

Lastly, on page 2 of the Office Action, the Examiner rejects claim 5 under 35 U.S.C. 103 as being unpatentable over Aufdermarsh, Takata, Imai, and Japanese reference '666, '875, '280, '674, in view of Japanese '670 and '346. The comments set forth above relative to these same references are also applicable against claim 5. Additionally, it is quite clear that Aufdermarsh, Takata, Imai, and Japanese employ a blocked isocyanate. Thrice amended claim 1 now clearly eliminates any adhesive composition which has compounds in it other than epoxy and RFL. Additionally, it is noted that Japanese reference '670 and '346 require many other components to make the adhesive. Again these additional components are specifically eliminated by thrice amended claim 1.

This amendment after final is being timely submitted within the first month of the shortened statutory period.

In view of the amendments to the claims, and particularly new claim 24, and in light of these remarks it is submitted that the present application is now in condition for allowance and such is earnestly solicited.

Respectfully submitted,



Gregory N. Clements
Attorney for Applicant(s)
Registration No. 30,713
DOUGHERTY, CLEMENTS, & HOFER
6230 Fairview Road, Suite 400
Charlotte, North Carolina 28210
Telephone: (704) 366-6642
Facsimile: (704) 366-9744

GNC/mh

f:\wpnet\KoSa\Patent\2000-12\AmdOA 12-4-02.doc

Version With Markings to Show Changes Made

In the Claims:

Claims 1 has been amended as follows:

1. (Thrice Amended) A single dip ~~adhesive composition consisting essentially of~~
comprising:
 an adhesive composition, and
 other non-adhesive additives,
 wherein said adhesive composition consists of from about 2 - 12 wt. % epoxy resin,
 and resorcinol formaldehyde latex, based on a dry weight basis.

Claim 24 has been added as follows:

24. A single dip composition, consisting of: from about 2 – 12 wt. % epoxy resin, sufficient alkali additive to buffer the composition, and resorcinol formaldehyde latex, based on a dry weight basis.